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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,026	NIIHO ET AL.	
	Examiner	Art Unit	
	HIBRET A. WOLDEKIDAN	4181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/09/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Withdrawal of Objection

1. The objection to the title of the application is withdrawn.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim28 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. "…,and transmitting the second upstream electrical signal to the host device through the optical fiber transmission line…" transmitting electrical signals through optical fibers.

3. Claim 28 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention "…,and transmitting the second upstream electrical signal to the host device through the optical fiber transmission line…" transmitting electrical signals through optical fibers.

Response to Arguments

1. Examiner acknowledges receipt of Applicant's Amendments, remarks, arguments received on 12/07/2007. Claims 1-28 have been amended. Applicant's arguments filed on December 07, 2007 have been considered but they are not persuasive.

Considering the applicant's currently amended and original claims, the applicant argued futures where in a wireless access system and method using Carrier Sense Multiple access for Media Access Control of a host device by using a plurality of terminals. It is also claimed that converting in the master station or main station a first downstream or downlink signal received from the host device into a downstream optical signal and transmitting the downstream optical signal via an optical fiber transmission line to the access control section, and for converting an upstream or uplink optical signal received via the optical fiber transmission line into a first upstream electrical signal and transmitting the first upstream electrical signal to the host device; converting in a plurality of slave stations a second upstream electrical signal received from any one of the plurality of terminals in a wireless communications area into the upstream optical signal and transmitting the upstream optical signal through optical fiber transmission line, and for converting the downstream optical signal into a second downstream signal and transmitting the second downstream signal to the wireless communications area; transmitting via the access control section the downstream optical signal received from the master station to the plurality of slave stations or remote stations via the optical fiber transmission line, transmitting the upstream optical signal transmitted from the any one of the plurality of slave stations to the master station via the optical fiber transmission line, and notifying all other slave stations of the plurality of slave stations that the any

one of the plurality of slave stations has transmitted the upstream optical signal; Furthermore, the applicant claims that converting in the plurality of slave stations a first upstream electrical signal received from any one of the plurality of terminals in the wireless communications area into an upstream optical signal and transmitting the upstream optical signal to the access control section through the optical fiber transmission line; and converting the upstream optical signal received from the access control section into a second upstream electrical signal, and transmitting the second upstream electrical signal to the host device through the optical fiber transmission line.

The applicant claims read on Schwartz in view of Chuah, Schwartz in view of Chuah further in view of Chen.

Schwartz is discussing a method and system for distributing wireless communication signals in which signals transmitted between a wireless communication network, master station or main unit, slave stations or remote units, access control or expansion units and using optical fiber as a transmission medium for optical signals. Therefore, Schwartz shows the limitation “a wireless access system and method using Carrier Sense Multiple access for Media Access Control of a host device by using a plurality of terminals”. Schwartz discusses that a master or main station for converting a polarity of downstream signals to a downstream optical signals, and also converting the received upstream optical signals into a different form of signals and transmitting the upstream signals to the host device or uplink-RF interface in the main unit; in the slave station converting a plurality of upstream or uplink signals into upstream optical signals

via optical fiber, and converting the downstream or downlink optical signal into a different form of downstream signals and transmitting the second downstream converted signal to the wireless communications area; also transmitting the downstream optical signal from the main station to the plurality of slave or remote stations via the access control section or expansion unit, also transmitting the upstream optical signal transmitted from the slave or remote station to the master station or main unit. Schwartz also depicts in the slave or remote stations converting upstream signals into an upstream optical signal and transmitting the upstream optical signal to the access control section or expansion unit; and converting the upstream optical signals into a different form of upstream signals.
Chunk further teaches a scheduling system for notifying all other slave or remote stations about transmitting signals.

Concerning the applicant's argument regarding combinations of references, both of the references are from the same field, i.e. Wireless communication system and concern analogues topics. Therefore, the examiner contends that the references would be combinable to tone skilled in the art.

Concerning the applicant's argument regarding motivation to combine the references, the motivation to combine was shown in the secondary references, Chuah and Chen.

Concerning the applicants argument regarding addressing the hidden terminal problem, hidden terminal problem is not discussed in any of the claims. However, Chuan addresses the hidden terminal problem and how to solve it.

Therefore, the argued limitations read upon the cited references or are written broad such that the read upon the cited references, as follows.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2,4,7- 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al. (6,801,767) in view of Chuah et al. (6,226,277).

Considering claim 1, Schwartz discloses a wireless access system using Carrier Sense Multiple access for Media Access Control of a host device by using a plurality of terminals(**See Abstract, Col. 9 line 64-67 Col. 2 line 25-30 i.e. a method and system for distributing wireless communication signals)**, the wireless access system comprising:

a master station for converting a first downstream electrical signal received from the host device into a downstream optical signal **(See abstract, figure 2A, Col. 3 line 35-40 i.e. a main unit for converting input signal to optical signal)** and transmitting the downstream optical signal via an optical fiber transmission line**(See Col. 9 line 35-40 i.e. optical fiber transmission line for transmitting optical signal)**, and for

converting an upstream optical signal received via the optical fiber transmission line into a first upstream electrical signal**(See Col. 3 lines 35-39, Col. 4 line. 30-35 i.e. upstream is the same as Uplink. Uplink optical signal converted to another form of signal)** and transmitting the first upstream electrical signal to the host device **(See Col. 12. lines 34-36, Col. 14. lines 4-6 i.e. transmitting the upstream converted signal to the host device or uplink-RF interface in the main unit)**;

a plurality of slave stations each for converting a second upstream electrical signal received from any one of the plurality of terminals in a wireless communications area into the upstream optical signal and transmitting the upstream optical signal via the optical fiber transmission line**(See Col. 5 line 10-24, Col. 9 lines35-50, Col. 12 lines 5-30 i.e. for converting signals to uplink optical signal and transmitting the converted optical signals through optical fibers)**, and for converting the downstream optical signal received via the optical fiber transmission line into a second downstream electrical signal **(See Col.2 line 60-65 Col 4 line 58-65 i.e. a remote unit for converting optical signal to another form of signal)** and transmitting the second downstream electrical signal to the wireless communications area**(See Col. 4 line55-57 i.e. transmitting signals to a wireless communications network)**; and

an access control section for transmitting the downstream optical signal received from the master station to the plurality of slave stations via the optical fiber transmission line **(See Abstract, Col. 2 lines 57-60 i.e. transmitting downstream or downlink optical signal to the slave stations or remote units through optical fiber)**, transmitting the upstream optical signal transmitted from the any one of the plurality of slave stations to

the master station via the optical fiber transmission line **(See Col. 3 lines 31-34 i.e. upstream or uplink optical signals transmitted to the slave stations or remote units via optical fibers)**, and notifying all other slave stations of the plurality of slave stations that the any one of the plurality of slave stations **(See Col. 4 lines 10-22 i.e. control or pilot signal a means of notifying or detecting the condition of the signals in the slave or remote station)**.

Chuah further teaches teaches notifying the slave or remote stations about transmission **(See Col. 9 lines 54-67, Col. 10 lines 51-62, Col. 11 lines 12-25 i.e. a scheduler which notifies the remote or slave stations about a transmission)**.

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Schwartz, and notify the slave or remote stations about transmission, as taught by Chuah, thus allowing a means of controlling the traffic of a transmission system **(See Col. 3 lines 1-10).**

Consider Claims 28, Schwartz discloses a wireless access method for a system using Carrier Sense Multiple Access for Media Access Control of a host device via a plurality of terminals**(See abstract line 1-2, Col. 9 line 64-67 i.e. a method for distributing wireless communication signals)**, the method comprising: connecting the host device and the plurality of terminals via a master station, an access control section and a plurality of slave stations**(See Col. 9 line 30-50 i.e. a method for connecting the main unit, expansion unit and remote unit)**;

converting in the master station a first downstream electrical signal received from the host device into a downstream optical signal **(See Col. 2 lines 40-60 i.e. converting**

downstream signal to optical signal in the main unit), and transmitting the downstream optical signal to the access control section through an optical fiber transmission line**(See Col. 4 lines 23-39 i.e. transmitting the downstream optical signal through optical fiber to the access control unit or expansion unit)**; transmitting via an access control section the downstream optical signal received from the master station to the plurality of slave stations through the optical fiber transmission line**(See Col. 4 lines 23-39 i.e. transmitting the downstream or downlink optical signal from the main station or from the master station to the slave station or remote unit via the access control unit or expansion unit)**; converting in the plurality of slave stations the downstream optical signal received from the access control section into a second downstream electrical signal**(See Col. 4 lines 58-67 i.e. converting downstream optical signal to a different form of downstream signal in the remote unit or slave station)**, and transmitting the second downstream electrical signal to a wireless communications area**(See Col. 4 lines 58-67 and Col. 5 line 1 i.e. transmitting the converted downstream signal to a wireless communications area or antenna)**; converting in the plurality of slave stations a first upstream electrical signal received from any one of the plurality of terminals in the wireless communications area into an upstream optical signal **(See Col. 5 lines 11-25 i.e. converting upstream signals to optical upstream signal in the remote unit or slave station)** and transmitting the upstream optical signal to the access control section through the optical fiber transmission line**(See Col. 4 lines 23-39, Col. 7 lines 5-10 i.e. transmitting the upstream optical signals to the access control section or**

expansion unit via optical fiber); transmitting via the access control section the upstream optical signal received from the any one of the plurality of slave stations to the master station through the optical fiber transmission line**(See Col. 4 lines 30-39 i.e. transmitting the upstream optical signals from the slave stations to the main station via the access control section)** and notifying all other slave stations of the plurality of slave stations **(See Col. 4 lines 10-22 i.e. control or pilot signal a means of notifying or detecting the condition of the signals in the slave or remote station)**; and converting the upstream optical signal received from the access control section into a second upstream electrical signal **(See Col. 7 lines 8-10 i.e. converting the upstream or uplink optical signals to a different form of upstream signals)**, and transmitting the second upstream electrical signal to the host device through the optical fiber transmission line**(See Col. 12. lines 34-36, Col. 14. lines 4-6 i.e. transmitting the upstream converted signal to the host device or uplink-RF interface in the main unit)**.

Chuah further teaches teaches notifying the slave or remote stations about transmission **(See Col. 9 lines 54-67, Col. 10 lines 51-62, Col. 11 lines 12-25 i.e. a scheduler which notifies the remote or slave stations about a transmission)**.

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Schwartz, and notify the slave or remote stations about transmission, as taught by Chuah, thus allowing a means of controlling the traffic of a transmission system **(See Col. 3 lines 1-10).**

Considering Claim 2 Schwartz discloses, the wireless access system according to claim 1, wherein the access control section comprises an optical multiplexing/demultiplexing section for allowing the downstream optical signal from the master station to be demultiplexed and transmitting a plurality of demultiplexed optical signals to the plurality of slave stations **(Col. 18 lines 31-55 i.e. the access control section or the expansion unit comprising an optical multiplexer or combiner / dimultiplexer or splitter section)**, and for allowing the upstream optical signal transmitted from the any one of the plurality of slave stations to be demultiplexed and transmitting a plurality of demultiplexed optical signals to the master station and the all other slave stations of the plurality of slave stations**(See Col. 4 lines 23-39, Col. 6 lines 57-59 i.e. for allowing the upstream or uplink optical signal to be transmitted from the remote or slave stations to the master or main stations)**.

Considering claim 3, Schwartz discloses the wireless access system according to claim 2, wherein the optical multiplexing/demultiplexing section returns the upstream optical signal transmitted from the one of the plurality of slave stations back to the one of the plurality of slave stations **(See Col. 18 line 14-45 i.e. transmitting a plurality of demultiplexed/multiplexed signals to the remote units or slave stations)**.

Considering claim 4, Schwartz discloses, the wireless access system according to claim 1, wherein the access control section comprises an optical multiplexing/demultiplexing section for allowing the downstream optical signal transmitted from the master station to be demultiplexed **(See Col. 6 line 65-67 i.e. optical splitting means for splitting the optical signal to multiple secondary-**

optical-signals) and transmitting a plurality of demultiplexed optical signals to the plurality of slave stations**(Col. 18 line 39-45 i.e. transmitting a plurality of demultiplexed or splitted signals to the remote units or slave stations)**, and outputting the upstream optical signal transmitted from the one of the plurality of slave stations to the master station**(Col. 4 line 22-39 i.e. outputting the upstream optical signals from the remote or slave station to the main station)**, and the master station generates a superimposed optical signal by superimposing the upstream optical signal transmitted from the one of the plurality of slave stations onto an the downstream optical signal**(See Col 7, line 5-8, line 32-35 i.e. optical-combining element for combining optical signals)**, and returns the superimposed optical signal back to the optical multiplexing/demultiplexing section**(See Col. 4 line 34-39 i.e. transmitting combined optical signals)**.

Considering Claim 7, Schwartz inherently discloses, the wireless access system according to claim 2, wherein the optical multiplexing/demultiplexing section is an omnidirectional distribution optical multiplexer/demultiplexer including at least an optical port connected to the master station and a plurality of optical ports connected to the plurality of slave stations**(See Col. 4 lines 23-39, Fig. 5A i.e. the optical multiplexer/demultiplexer or combiner/splitter in the expansion unit are omnidirectional and linked between the includes one port connected to the master or main station another connected to the slave or remote stations)**, respectively, and having formed therein an optical transmission path through which an optical signal transmitted to any one of the optical ports is transmitted to all other

optical ports of the plurality of optical ports**(See Col. 2 line 25-30 Col. 8 line 65-67, Col 9. line 1-3, Fig 2A-2D i.e. optical fiber transmission line for transmitting signals through the system)**.

Considering Claim 8, Schwartz inherently discloses a method of combining and sending optical signals in a loop, the wireless access system according to claim3, wherein the optical multiplexing/demultiplexing section is a loopback optical coupler including at least an optical port connected to the master station, a plurality of optical ports connected to the plurality of slave stations respectively, **(See Col. 7, line 32-35 i.e. optical combining element; Col. 4 line 23-36 i.e. optical signal transmitted from and back to the main unit)** and two optical ports **(See Col 9 line 35-50 i.e. primary and secondary optical fiber)**connected to each other by a loop and having formed therein an optical transmission path through which an optical signal inputted to any one of the optical ports from any one of the plurality of slave stations is outputted to the plurality of slave stations through the two optical ports connected to each other by a loop**(See Col. 2 line 25-32 Col. 8 line 65-67, Col 9. line 1-3, Fig 2A-2D i.e. optical fiber transmission line)**.

Claim 9, Schwartz discloses, the wireless access system according to claim3, wherein the optical multiplexing/demultiplexing section is a reflection optical coupler**(See Col. 7, line 32-35 i.e. optical combining element in the main unit)** including at least an optical port connected to the master station, a plurality of optical ports connected to the plurality of slave stations respectively, **(See Col 9 line 35-50 i.e. primary and secondary optical fiber)** and one optical port processed to be light

reflective and having formed therein an optical transmission path through which an optical signal inputted to any one of the optical ports from any one of the plurality of slave stations is transmitted to the plurality of slave stations through the one optical port processed to be light reflective**(See Col. 2 line 25-30 Col. 8 line 65-67, Col 9. line 1-3, Fig 2A-2D i.e. optical fiber transmission line which is light reflective material)**.

Claim 10, Schwartz inherently discloses, the wireless access system according to claim7, wherein the optical multiplexing/demultiplexing section is comprises a combination of a plurality of optical multiplexing/demultiplexing units each including three optical ports **(See Col. 9 line 25-50, Fig. 4b, 5b i.e. main unit, remote unit as optical port and expansion unit since each unit is connected to optical fiber to transmit optical signal)** and having formed therein an optical transmission path through which an optical signal inputted to any one of the three optical ports is outputted to all other Optical ports**(See Col. 2 line 25-30 Col. 8 line 65-67, Col 9. line 1-3, Fig 2A-2D, 4a- 5b i.e. optical fiber transmission line)**.

Considering Claim 11, Schwartz discloses, the wireless access system according to claim7, wherein the optical multiplexing/demultiplexing section is comprises a plurality of optical couplers **(See Col. 7, line 32-35 i.e. optical combining element).**

Considering Claim 12, Schwartz discloses, the wireless access system according to claim 10, wherein the optical multiplexing/demultiplexing unit comprises a plurality of optical couplers **(See Col. 7, line 32-35 i.e. optical combining element)**.

Considering Claim 13, Schwartz discloses, the wireless access system according to claim7,wherein the optical multiplexing/demultiplexing section is comprises an optical

waveguide**(See Col. 2 line 25-30 Col. 8 line 65-67, Col 9. line 1-3, Fig 2A-2D i.e. optical fiber or waveguide for guiding optical signals)**.

Considering Claim 14, Schwartz discloses, the wireless access system according to claim 10, wherein the optical multiplexing/demultiplexing unit is comprises an optical waveguide. **(See Col. 2 line 25-30 Col. 8 line 65-67, Col 9. line 1-3, Fig 2A-2D i.e. optical fiber for combining and guiding optical signals)**.

Considering Claim 15, Schwartz inherently discloses, the wireless access system according to claim3, wherein the one of the plurality of slave stations cancels its own upstream optical signal which has been returned back thereto from the optical multiplexing/demultiplexing section. **(See Col. 7 line 44-50 i.e. filters, Col. 8 line 35-44 i.e. switches to prevent signals from transmitting)**

Considering Claim 16, Schwartz inherently discloses, the wireless access system according to claim 4, wherein the one of the plurality of slave stations cancels its own upstream optical signal which has been returned back thereto from the optical multiplexing/demultiplexing section. **(See Col. 7 line 44-50 i.e. filters to eliminate signals, Col. 8 line 35-44 i.e. switches to prevent signals from transmitting)**

Considering Claim 17, Schwartz discloses, the wireless access system according to claim 1, Wherein the master station comprises: a first high-frequency amplification section for amplifying the first downstream electrical signal received from the host device**(See Col. 13 lines 12-39, Fig. 3A i.e. amplifier for amplifying signals in the main unit or master station)**;

an optical reception section for converting the upstream optical signal received from the

access control section into the first upstream electrical signal **(See Col. 18 line 65-67 and Col 19. line 1 i.e. Optical to RF converters in the expansion unit for converting the optical signal)**;

an optical transmission section for converting the first downstream electrical signal amplified by the first high-frequency amplification section into first downstream optical signal **(See Col. 19, line 3-6 i.e. a uplink RF to optical converter for converting signals to optical signal)**; and

a second high-frequency amplification section for amplifying the first upstream electrical signal converted by the optical reception section**(See Col. 19, line 1-5 i.e. a uplink RF-amplifier for amplifying signals)**.

Considering Claim 18, Schwartz discloses, the wireless access system according to claim4,where in the master station comprises: a first high-frequency amplification section for amplifying the first downstream electrical signal received from the host device**(See Col. 18 line 30-45 i.e. a downlink RF – amplifier for amplifying signals)**; an optical reception section for converting the optical signal received from the access control section into first upstream electrical signal **(See Col. 18 line 65-67 and Col 19. line 1 i.e. Optical to RF converters in the expansion unit for converting the optical signal)**; a multiplexing section for allowing the first upstream electrical signal converted by the optical reception section and the first downstream electrical signal amplified by the first high-frequency amplification section to be multiplexed together**(See Col. 19, line 1-5 i.e. an uplink RF-combiner for combing signals)**; an optical transmission section for converting a multiplexed electrical signal multiplexed by the multiplexing

section into an optical signal**(See Col. 14 lines 1-13, Col. 19, line 3-6, Fig. 5B i.e. WDM for multiplexing signals a uplink RF to optical converter for converting to optical signal)**; and a second high-frequency amplification section for amplifying the first upstream electrical signal converted by the optical reception section**(See Col. 13 lines 58-67 and Col. 14 lines 1-13, Col. 19, line 1-5 i.e. a uplink RF-amplifier for amplifying signals)**.

Considering Claim 19, Schwartz discloses the wireless access system according to claim 17, wherein the master station further comprises: a transmitted/received signal multiplexing/separation section for allowing the first downstream electrical signal transmitted to the first high-frequency amplification section and the first upstream electrical signal transmitted from the second high-frequency amplification section to be multiplexed together onto a transmission line. **(See Col. 19, line 7-25 i.e. WDM filter to transmit downlink and uplink signal together in a single line)**

Considering Claim 20, Schwartz discloses, the wireless access system according to claim 17, wherein the master station further comprises: an optical signal multiplexing/separation section for allowing the downstream optical signal transmitted from the optical transmission section and the upstream optical signal received by the optical reception section to be multiplexed together onto the optical fiber transmission line **(See Col. 19, line 7-25 i.e. WDM filter to transmit downlink and uplink signal together in a single optical fiber).**

Considering Claim 21, Schwartz discloses. The wireless access system according to claim I, wherein the slave stations each comprise: an optical reception

section for converting the downstream optical signal received from the access control section into the second downstream electrical signal **(See Col. 4 line 58- 62, Col. 14 line 14-17 i.e. a remote unit comprising a downlink optical to RF- converter for converting optical signal in the downlink)**; a first high-frequency amplification section for amplifying the second upstream electrical signal received from the any one of the plurality of terminals**(See Col. 14 line 20-25 i.e. a remote unit comprising RF-amplifier)**; a second high-frequency amplification section for amplifying the second downstream electrical signal converted by the optical reception section**(Col. 14 line 20-25 i.e. a remote unit comprising uplink RF-amplifier Col. 15 line 17-30)**; and an optical transmission section for converting the second upstream electrical signal amplified by the first high-frequency amplification section into the upstream optical signal**(See Col. 17 line 1-5 i.e. a remote unit comprising RF to optical converter)**.

Consider Claim 22 and 23, Schwartz discloses the wireless access system according to claim 15 and 16, wherein the slave stations each comprise:
an optical reception section for converting the downstream optical signal received from the access control section into the second downstream electrical signal **(See Col. 4 line 58- 62, Col. 14 line 14-17 i.e. a remote unit comprising a downlink optical to RF-converter for converting optical signal in the downlink)**;
a first high-frequency amplification section for amplifying the second upstream electrical signal received from the any one of the plurality of terminals**(See Col. 14 line 20-25 i.e. a remote unit comprising RF-amplifier)**; a phase inversion section for inverting a phase of the second upstream electrical signal amplified by the first high-frequency

amplification section**(See Col. 1, line 42-45)**; a delay section for imparting a predetermined amount of delay to the second upstream electrical signal whose phase has been inverted by the phase inversion section**(See Col 3 line 10-20 i.e. a spatial separation)**;

a multiplexing section for allowing the second downstream electrical signal converted by the optical reception section and an electrical signal delayed by the delay section to be multiplexed together**(See Col. 3 line 22-31 i.e. a remote unit for combining signals)**; a second high-frequency amplification section for amplifying a multiplexed electrical signal multiplexed by the multiplexing section **(See Col. 3 line 22-32 i.e. remote unit for amplifying signals)**; and an optical transmission section for converting the second upstream electrical signal amplified by the first high-frequency amplification section into the upstream optical signal**(See Col. 3 line 29-35 i.e. remote unit for converting to optical signals)**.

Consider Claim 24, Schwartz discloses, the wireless access system according to claim 21, wherein the plurality of slave stations each further comprise an optical signal multiplexing/separation section for allowing the upstream optical signal transmitted from the optical transmission section and the downstream optical signal received by the optical reception section to be multiplexed together onto the optical fiber transmission line **(See Col. 19 line 7-25, Col. 17, line 60-64, Col. 18 line 1-14 i.e. downlink and uplink optical signal transmitted on a single optical fiber).**

Consider Claim 25, Schwartz discloses, the wireless access system according to claim 21, wherein the plurality of slave stations each further comprise a

transmitted/received signal multiplexing/separation section for allowing the second upstream electrical signal received by the first high-frequency amplification section and the second downstream electrical signal transmitted from the second high-frequency amplification section to be multiplexed together onto a wireless transmission line via one antenna. **(See Col. 19, line 60-65 i.e. antenna)**

Consider Claim 26 and 27, Schwartz discloses, the wireless access system according to claim 20 and 24, wherein the optical signal multiplexing/separation section performs wavelength division multiplexing **(See Col. 18 line 14- 30, Figure 4A i.e. performing wavelength division multiplexing).**

3. Claim 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al. (6801767) in view of Chuah(6,226,277) further in view of Chen et al. (7177294).

Consider Clam 5, Schwartz and Chuah discloses, the wireless access system according to claim 1, wherein section comprises an optical section for allowing the downstream optical signal received from the master station to be demultiplexed and transmitting a plurality of demultiplexed optical signals to the plurality of slave stations **(See Schwartz Col 4, line 23-31 i.e. optical signals transmitted from the main unit split into multiple optical signals and transmitted to remote units)**, and transmitting the upstream optical signal from the one of the plurality of slave stations to the master station**(See Col 4, line 23-39 i.e. uplink optical signals from the remote units transfer back to the main unit)**,

Schwartz and Chuah do not specifically disclose any one of the plurality of terminals transmit a Request to Send (RTS) packet or Clear to Send (CTS) packet.

Chen teaches a Request to Send (RTS) packet or Clear to Send (CTS) packet **(See Col. 16 lines 25-60 i.e. WLAN Network Stations send a RTS to WLAN Access point or Control Point Device. WLAN Access point or Control Point Device transmits a CTS packet to WLAN Network Stations. WLAN Network Stations transmit a RTS packet to WLAN Access point after receiving a CTS packet)**.

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Schwartz and Chuah, and have a Request-to-Send packet and a Clear to Send packet, as taught by Chen, thus allowing more efficient wireless protocols **(See Col. 2 line 31-42)**

Consider Claim 6, Chen discloses, the wireless access system according to claim5, wherein the Clear-to-Send packet includes at least information authorizing the one of the plurality of terminals to start transmission and information allowing all other terminals of the plurality of terminals to stop transmission for a predetermined period of time **(See Col. 16 line 25-38 i.e. Request to Send and Clear to Send header).**

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HIBRET A. WOLDEKIDAN whose telephone number is (571)270-5145. The examiner can normally be reached on Monday to Thursday from 8:00 a.m. - 4:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on 5712727876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. A. W./
Examiner, Art Unit 4181

/Nick Corsaro/
Supervisory Patent Examiner, Art Unit 4181